Using NNexus the Pitman Way

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This document outlines using the scripts developed for Dr. Pitman for his Probability Course Notes

This document assumes that a working version of NNexus and latex2html are already installed.

1 Utilities Covered

The utilities developed for Dr. Pitman include the following scripts.

- `linkingclient.pl` - simply sends nnexus xml to the server and waits for the response.
- `latex2nnexus.pl` - converts a latex (.tex) file to the correct format for NNexus and returns a linked version of the same latex file.
- `render_notes.pl` - traverses and entire directory tree of latex files, links them, renders them (with latex2html) and places them in an output directory tree. `render_notes.pl` also builds an index linking to the output directory tree.
- `buildIndex.pl` - traverses a directory tree and provides a link to all tex files in the directory that have already been processed by latex2html
- `pitman2nnexusxml.pl` - converts a directory into NNexus XML format for adding to the NNexus database.

2 Quick and Dirty

This Quick and Dirty section describes the process of linking a directory of lecture notes with NNexus and rendering them in html form. Note: This section assumes that all domain information and article information is already imported into NNexus.

The steps are:

1. Make sure the directory containing the `.tex` files does not contain any `.tex` files with spaces in the filename. (This is required for latex2html to process the files correctly). The `whitespacerm.sh` bash script will ensure that the filenames are in the correct format. To use `whitespacerm.sh` copy it into the directory you wish to remove the whitespaces and execute `sh whitespacerm.sh`.

   Example Suppose you have a directory with the following files:

   ```
   Frodo:~/Desktop/Research/pitman/trunk/example$ ls
   Densities.tex                  Double or Nothing_game.tex
   Doob's maximal inequality
   ```

   Copy `whitespacerm.sh` into `Frodo:~/Desktop/Research/pitman/trunk/example` and execute

```
Frodo:~/Desktop/Research/pitman/trunk/example$ sh whitespacerm.sh
Densities.tex Densities.tex
Doob's maximal inequality Doob_s_maximal_inequality
Double or Nothing game.tex Double_or_Nothing_game.tex
whitespacerm.sh whitespacerm.sh
```

You will then have

```
Frodo:~/Desktop/Research/pitman/trunk/example$ ls
Densities.tex                   Double_or_Nothing_game.tex
Doob_s_maximal_inequality       whitespacerm.sh
```

2. Run `render_notes.pl <input_path> <output_path>`. This will link and render all .tex files into `<output_path>/<input_path>` preserving the directory structure of `<input_path>`.

   Example

```
Frodo:~/Desktop/Research/pitman/trunk dryice$ perl render_notes.pl example/ ./examplelinked
processing example tree to ./examplelinked tree
------------------------------------
linking traversal
------------------------------------
*** processing all .tex files in example
*** copying latex2html-init and macros-topic.tex to ./examplelinked/example//
linking tex file: example/Densities.tex and creating it at ./examplelinked/example/Densities.tex
linking tex file: example/Double_or_Nothing_game.tex and creating it at ./examplelinked/example/Dou
------------------------------------
rendering traversal
------------------------------------
copying Densities.tex to Densities.tex with latex2html hacks*** rendering html for file: ./examplel
*** this will take some time ...
texexpand V2002-2-1 (Revision 1.11)

.
.
.
.
```

   You can then view the output by opening any of the html files in the output path.

3. Build a "pretty" index using `buildIndex.pl`

   Example

```
Frodo:~/Desktop/Research/pitman/trunk dryice$ perl buildIndex.pl ./examplelinked/
processing ./examplelinked tree
linking tex file: ./examplelinked/example/Densities.tex and creating it at ./examplelinked/example/
Density
linking tex file: ./examplelinked/example/Double_or_Nothing_game.tex and creating it at ./examplel
Double or Nothing Game
writing html index to ./examplelinked/testindex.html
```

   You will then need to copy the testindex.html to the top level directory of the rendered directory structure. In this example it is `Frodo:~/Desktop/Research/pitman/trunk`

4. Copy the newly created directory into the correct location according to your domain configuration file in NNexus.

   More details on this are to come.

After the above steps you should be able to view the notes from your browser and all links should work correctly.

3 Adding Notes To NNexus Server

Adding notes to the NNexus server is easy using `pitman2nnexusxml.pl`. To add a directory of `.tex` files to the NNexus server run `pitman2nnexusxml.pl <directory_name>`. This script pulls the meta-data from the all the .tex files in `<directory_name>` (and all sub-directories) and creates an xml file called pitmanout.xml that can be sent to the NNexus server for adding the concepts.